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NEW AFRICAN CALLIPHORIDÆ (DIPTERA)

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In the following pages I present descriptions of twenty-five species of Calliphoridæ from Africa. Inasmuch as the collections before me contain most of the described species from the region, it is hoped that an opportunity may be found in the near future to review the family as a whole and thus bring together, in one paper, the numerous representatives of the family occurring in Africa. The types of the new species, unless otherwise stated, are in The American Museum of Natural History.

Strongyloneura cupreithorax, new species

Black; antennæ red; thorax cupreous, thinly pollinose, abdomen with cupreous and greenish reflections. Length, 11 to 11.5 mm.

FEMALE.—Head black in ground color, clothed with cinereous-white pollen, the cheeks and facial ridges wine-red; a broad anterior band on the cheeks and the lower third of the parafacials shining. Front broad, gradually widening anteriorly, the parafrontals at their middle half as wide as the brown frontal vitta; frontal bristles moderately strong, the two upper pairs reclinate; three or four proclinate orbitals, the hair coarse and sparse, each hair and bristle arising from a tiny shining spot. Ocellars moderately strong; outer verticals more than half as long as verticals; no black setæ behind the occipital cilia. Cheeks and occiput pale yellow pilose. Parafacials as wide as the length of the third antennal segment, with sparse, coarse black hair. Palpi reddish brown, becoming red apically. Antennæ reddish, the basal segment stained with brown; facial carina very broad, convex, extending to the middle of the face.

Thorax blackish with very strong cupreous reflections, thinly cinereous pollinose, the vittæ indistinct. Hair black, the pleura yellow pilose except on the mesopleura. Acrosticals 1–3; dorsocentrals 2–4; two sublaterals and two posthumerals; three intra-alars; four pairs of marginal scutellars and two pairs of subdiscals; sternopleurals 1–1.

Legs black, the femora and coxæ with cinereous pollen; tibiæ reddish, their apices darker. Hair black, the fine hair on the coxæ yellowish; anterior coxæ with black bristles on their whole length.

Wings tinged with brown which is especially noticeable along the veins on the apical half, the base rather luteous. Squamæ large, cinereous white, the lower lobe produced inwardly to beneath the edges of the scutellum.

Abdomen blackish, with strong greenish tinge, and rather thickly cinereous pollinose, the pollen somewhat tessellate; a narrow blackish vitta extends from the base of the abdomen to the apex of the third segment and the rather narrow segmental

apices appear black in some lights. The fourth segment bears a large cupreous triangle on either side which is produced inwardly along the base of the segment and there are indications of a similarly colored, transverse spot on the base of two preceding segments at either side. Hair black, the basal sternite yellowish-haired. Fourth segment with an irregular row of discal bristles across the middle, the apical bristles rather fine.

TYPES.—Two females from Barberton, Transvaal, the holotype taken on July 15, 1920, the paratype on July 14, 1920 by Mr. H. K. Munro. The type has been returned to Mr. Munro.

This species differs from *connivens* Villeneuve in having a blackish prothoracic spiracle and from *villeneuvei* Curran by the cupreous thorax.

Strongyloneura varians, new species

Related to *tristis* Bigot but the mesonotum bears much narrower dark vittæ and a strong cupreous tinge is evident beneath the cinereous pollen; the veins on the apical half of the wing are clouded with brown and the yellow hair of the occiput extends on to the cheeks. Black, cinereous pollinose; tibiæ reddish. Length, 9 to 10 mm.

MALE.—Head with the soft parts of the face and the facial ridges reddish in ground color, wholly pollinose, with only small bare spots on the lower part of the parafacials and upper part of the cheeks. About seven pairs of frontals, the upper ones weak. Frontal vitta brown, the eyes separated by a distance less than twice that between the posterior ocelli; parafrontals with two irregular rows of black hairs; ocellars strong. Occiput yellow-haired, the pale hair extending on to the posterior part of the cheeks. Cheeks and parafacials with black hair, the parafacials moderately wide. Palpi brown, their apical third reddish. Antennæ reddish brown, the third segment about half reddish, long, the antennæ reaching almost to the vibrissæ. Facial carina high but narrow.

Thorax cinereous pollinose, with rather strong cupreous tinge beneath the cinereous pollen; three rather narrow, anteriorly abbreviated dark vittæ. Hair black, the fine hair on the sternopleura yellowish. Acrosticals 2–2; dorsocentrals 2–4; two sublaterals; three intra-alars; two posthumerals; three pairs of marginal scutellars; sternopleurals 1–1.

Legs black, the femora cinereous pollinose; hair wholly black; tibiæ reddish; pulvilli moderately long, brown.

Wings with brownish tinge, the veins on the apical half strongly bordered with brown. Squamæ with yellow tinge, not produced inwardly although convex.

Abdomen black, cinereous pollinose, in some lights with cupreous reflections laterally. An obscure median vitta and the apices of the segments appear pollinose in some views; pollen very weakly tessellate. Hair and bristles black, yellow on the first sternite. Each segment bears several lateral median bristles, those on the fourth strong, the fourth without discals medianly.

FEMALE.—The pollen has a yellowish tinge. Front moderately wide, the brown frontal vitta slightly wider than either parafrontal; about seven pairs of frontals, the upper pair reclinate; two pairs of strong orbitals. Black vittæ of the mesonotum slightly narrower. Median bristles on the sides of the abdominal segments not quite as numerous, the fourth segment with a transverse row of bristles near the basal third.

TYPES.—Holotype, male, Victoria Falls, August 25, 1920; allotype, female, Victoria Falls, August 26, 1920; paratype, female, Victoria Falls, August 29, 1920, all collected by Mr. H. E. Irving. The types have been returned to Mr. H. K. Munro.

Strongyloneura congensis, new species

Related to *tristis* Bigot from which it differs by possessing only one pair of presutural acrostical bristles and the bluish coloration. Blackish blue, with cinereous pollen, the mesonotum rather weakly vittate. Length, 9 mm.

FEMALE.—Head with cinereous-white pollen, the parafrontals and parafacials appearing silvery in some lights; parafacials below, and a large spot on the front of the cheeks shining black. Front rather narrow, the brown frontal vitta wider than either parafrontal; about nine pairs of frontals, the upper pair reclinate; two pairs of strong orbitals; hair on the parafacials coarse, in two irregular rows, the inner row bristle-like. Occiput with yellowish hair which does not encroach upon the cheeks. Cheeks and the moderately narrow parafacials with black hair. Palpi brown. Antennæ reddish brown, long, not quite reaching the vibrissæ. Facial carina moderately narrow.

Thorax blue-black, rather thinly cinereous pollinose especially on the posterior portion of the mesonotum, the median dark vitta distinct in front, the others indistinct. Acrosticals 1–2; dorsocentrals 2–4; two sublaterals; three intra-alars; two posthumerals; three pairs of marginal scutellars; sternopleurals 1–1. Hair wholly blackish.

Legs black; tibiæ brown; hair wholly black; coxæ cinereous pollinose, the femora with thin brownish-gray pollen.

Wings cinereous, the veins bordered with light brown; basicosta blackish. Squamæ reddish brown, whitish on the basal half, the lower lobe gently convex on the inner side but not strongly produced.

Abdomen blue-black, moderately pollinose, the pollen quite conspicuous on the fourth segment, weakly tessellate on the intermediate segments. Hair and bristles black, pale on the basal sternite. Fourth tergite with a medianly interrupted row of discals.

HOLOTYPE.—Female, Burunga, Congo (J. Bequaert).

OBSCURIA Malloch

MALLOCH, 1925, Ann. Mag. Nat. Hist., XVI, p. 95 (Type: *spinicosta* Malloch).

Only one species has been described in this genus, and it is characterized by the absence of prescutellar acrosticals and three sternopleural bristles. The species before me does not agree in these characters, having only two sternopleurals and a pair of prescutellar acrosticals. Nevertheless it probably belongs in the genus, since neither of these characters is of generic importance. The two species are separable as follows:

a.—Sternopleurals 2–1; acrosticals 0–0; tibiæ reddish yellow; "eyes almost bare." *spinicosta* Malloch.

b.—Sternopleurals 1–1; acrosticals 0–1; legs wholly blackish; eyes bare. *incerta*, n. sp.

Obscuria incerta, new species

Black, with brownish-gray pollen, the wings strongly tinged with brown. Length, 3.5 to 4.25 mm.

MALE.—Head black, moderately grayish pollinose, the parafacials with a brownish area above; soft parts of the face dark reddish. Eyes separated by a distance slightly less than that between the posterior ocelli, widening in front and behind; frontal vitta brownish red anteriorly; about seven pairs of frontals; ocellars strong; outer verticals absent; hair on the head wholly black. Cheeks almost half as wide as eye-height. Parafacials moderately wide, with a few scattered hairs on the lower half. Palpi blackish. Antennæ brown, the third segment pollinose, reaching three-fourths the distance to the vibrissæ, which are situated almost level with the oral margin. Eyes quite bare.

Pollen of the thorax more brownish dorsally, the hair black. Acrosticals 0–1; dorsocentrals 2–3; one sublateral, the posterior one absent; two or three intra-alars; no posthumeral; three pairs of marginal scutellars, the apical pair decussate; sternopleurals 1–1.

Legs black, the coxæ thinly pollinose. Hair and bristles black. Pulvilli small, whitish.

Wings strongly tinged with brown, paler posteriorly. Squamæ brown, narrow. Halteres brown.

Abdomen shining, moderately grayish-brown pollinose, with a dark median vitta on the basal three segments. Hair and bristles black. Abdomen without discals; third and fourth segments each with a row of strong marginals, the second with an interrupted row of weaker marginals.

TYPES.—Holotype, male and one male paratype, Burunga, Congo (J. Bequaert).

Pericallimyia bequaerti, new species

Related to *spinigera* Villeneuve but at once distinguished by the bright orange abdominal apex. Length, 5 to 7 mm.

MALE.—Head black, with cinereous pollen which becomes silvery white in certain lights; in profile there is a silvery spot opposite the antennæ, a large one on the lower half of the parafacials and two on the cheeks; hair wholly black. About fourteen pairs of frontals, the upper ones becoming finer; ocellars long; several of the occipital cilia on the upper fifth unusually long. Cheeks one-fourth as wide as eye height. Parafacials of moderate width, with fairly long fine hairs on the upper third. Facial ridges with fine bristles on more than the lower half, the vibrissæ situated almost level with the produced oral margin. Palpi blackish. Antennæ black, four-fifths as long as the face. Eyes bare, separated by a distance equal to the width of the frontal triangle.

Thorax blue-black, moderately pollinose, less thickly so on the posterior half of the mesonotum which bears three moderately distinct dark vittæ. Acrosticals 2–3; dorsocentrals 2–3; two sublaterals; two intra-alars; one posthumeral; three pairs of marginal scutellars, the apical pair finer and decussate; sternopleurals 1–1. Hair wholly black.

Legs black; coxæ thickly, the femora thinly cinereous pollinose. Pulvilli short, yellowish brown.

Wings cinereous hyaline, with brownish tinge, the base broadly and a large spot on the anterior cross-vein deep brown. Squamæ brown with white rim. Halteres reddish yellow.

Abdomen blackish blue, the basal half of the second and third segments with tessellate grayish pollen; apical half of the fourth segment orange. Second and third segments without discals, the second with one pair, the third with a row of strong marginals; fourth segment with discal and marginal row of much finer bristles. Hair long and black, thick on the sternites. Genitalia black.

FEMALE.—Front with parallel sides, the brown frontal vitta much wider than either parafrontal; seven pairs of frontals, the upper pair reclinate; two pairs of orbitals, the upper pair weak; outer verticals long; occipital cilia without unusually long bristles above. Hair on parafacials short and not conspicuous. Thorax and abdomen dark bluish or violaceous, the bristles on the fourth abdominal segment stronger, the hair wholly shorter. The brown markings on the wings are less distinct, the spot on the cross-vein being small. The costal spine is longer and stronger than in the male.

TYPES.—Holotype, male, Bebungi, Uganda, April 4, 1927; allotype and paratype, two females, Burunga, Congo (J. Bequaert).

Paratricyclea muscoidea, new species

Black, with cinereous and brown pollen, the cross-veins clouded with brown; Length, 8 mm.

MALE.—Head black, cinereous-white pollinose, from lateral view with a dull black spot between the base of the antennæ and the orbit. Eyes separated by a slightly greater distance than that between the posterior ocelli; frontal vitta dull black; nine pairs of frontals; ocellars long; outer verticals distinct, hair of the central part of the occiput cinereous. Cheeks more than one-third as wide as the eye-height, the hair coarse and black; two or three bristles in front. Parafacials of moderate width, with two or three hairs below the frontal bristles. Palpi reddish brown. Antennæ blackish brown, reaching the lower fourth of the face, the third segment twice as long as the second. Vibrissæ situated slightly above the oral margin.

Thorax cinereous pollinose, the mesonotum brown, with a pair of dorsocentral vittæ and the lateral margins broadly gray, the disc of the scutellum also brown. Acrosticals 0–1 or 2; dorsocentrals 2–3; two sublaterals, no posthumerals; two intra-alars; three pairs of marginal scutellars; sternopleurals 2–1. Hair black except on the propleura.

Legs black, black-haired; coxæ gray pollinose; femora thinly brownish-gray pollinose; tibiæ brownish red; pulvilli reddish brown, elongate.

Wings tinged with brown, the veins slightly, the cross-veins strongly, clouded. Squamæ tinged with brown, the base white. Knob of halteres yellow.

Abdomen narrowly oval, twice as long as wide, subcylindrical, cinereous pollinose above, the dorsum with a brown vitta interrupted at the sutures and with a large, subtriangular brown spot on each segment which may be more or less united with the median vitta posteriorly; venter wholly brown except laterally. Hair black; no discal bristles and no median laterals, third and fourth segments each with a row of strong marginals, the second with strong marginals laterally and four weak ones on the median portion. Genitalia small, brownish gray.

TYPE.—Male, Kabale, Uganda, April 9, 1927 (J. Bequaert).

This species is related to *stabulans* Bezzi but the color, longer abdomen and much more strongly clouded cross-veins will at once distinguish it. *P. stabulans* has reddish femora, partly reddish abdomen and reddish scutellum.

Paratricylea metallica, new species

A metallic blue and green species, with reddish tibiæ and the lower squamal lobe transverse at the apex and slightly produced on the inner side. Length, 5.5 mm.

MALE.—Head black, cinereous-white pollinose. Eyes separated by slightly less than the distance between the posterior ocelli; frontal vitta dull black; eight or nine pairs of frontals, the upper ones weak; ocellars long and strong; hair black, pale on the occiput below the neck. Cheeks a little more than one-third as wide as the eye-height. Parafacials moderately narrow, without hairs. Palpi reddish. Antennæ brownish red, the third segment brown, reaching the lowest fourth of the face.

Thorax metallic blue, thinly cinereous pollinose, not vittate. Acrosticals and dorsocentrals 2–3; two sublaterals; one posthumeral; three intra-alars; four pairs of marginal scutellars, the sub-basal pair weak; sternopleurals 2–1. Hair black.

Legs black, the tibiæ and basal one or two tarsal segments reddish; coxæ thinly pale pollinose; pulvilli small, cinereous.

Wings cinereous hyaline. Squamæ brown with luteous base and margin, the lower lobe transverse apically, sharply rounded at the corners, almost straight on the inner margin and slightly produced inwardly. Halteres yellow.

Abdomen metallic green, the first segment blackish blue; an obscure, broad vitta on the second segment and the narrow apices of the second and third, appearing blackish in some lights; second to fourth segments thinly white pollinose, the third and fourth each with a row of strong marginals; second and third segments with two to four median lateral bristles. Genitalia brown. Abdominal hair wholly black.

HOLOTYPE.—Male, Balla-Balla, S. Rhodesia, February, 1931 (A. Cuthbertson), No. 519.

This species is apparently related to *cærulea* Villeneuve but the presence of only three pairs of postsutural dorsocentrals will at once distinguish it.

Tricyclea kasatana, new species

Rusty reddish yellow, the mesonotum, except laterally, and abdominal markings black. Length, 7 mm.

FEMALE.—Head yellowish, whitish pollinose. Front with parallel sides; six or seven pairs of decussate frontals and a proclinate pair above; ocellars and outer verticals strong; occipital cilia black. Hair of the front short and black; some of the hairs on the upper part of the cheeks, sometimes most of those on the anterior half, black, the hair otherwise fine and yellow. Cheeks a little more than one-third as wide as eye-height. Parafacials quickly tapering so that the soft part is extensive, the hairs very small and not easily seen; facial ridges bristled slightly more than halfway. Palpi pale orange, very large, spoon-shaped, with many short, coarse, black hairs. Antennæ pale orange, the arista black except basally.

Thorax yellowish, moderately cinereous pollinose, the mesonotum black with broadly yellow sides. On the mesonotum the pollen, in certain lights, leaves six narrow, bare vittæ but they are not at all conspicuous. Acrosticals 3–3; dorsocentrals 3–4; two sublaterals, the inner posthumeral present, the outer absent; three intra-alars; four or five pairs of marginal scutellars; sternopleurals 1–1. Hair of the dorsum black, of the pleura yellow, the mesopleura with two rows of black bristles above. Scutellum yellow.

Legs reddish yellow, the apical one or two tarsal segments brown. Hair and bristles black.

Wings tinged with yellow. Squamæ cinereous yellow. Halteres yellow.

Abdomen rusty reddish-yellow, with black markings as follows: a very narrow, incomplete and broadly interrupted fascia on the first segment, broad fasciæ on the second and third segments which are wide in the middle and narrow laterally, and a transverse, oval spot on either side of the apex of the fourth segment. At their widest point the bands on the second and third segments occupy about the posterior third of the segment. In some lights there is a faint white bloom on the abdomen but it is usually shining. Hair black, fine and yellow only on the base of the venter.

TYPES.—Holotype, female, Kasata, Liberia, September 29, 1926; paratype, female, Memeh Town, Liberia, August 29, 1926 (J. Bequaert).

This may prove to be *evanida* Villeneuve but is not the same as the species so identified by Malloch. In *evenida* Malloch the outer posthumeral bristle is present, so that there are five bristles in the presutural lateral area, whereas in *kasatana* the outer posthumeral is absent.

Tricyclea major, new species

The largest species in the genus. It resembles *fasciata* Macquart but has the thorax wholly pale, the mesonotum being rusty reddish. The costal border is brown beyond the auxiliary vein to a little beyond the apex of the second vein, with a broad yellowish streak bordering on the first vein behind, the wings otherwise with a luteous tinge. *T. semithoracica* Villeneuve has the mesonotum largely black in front of the suture and is a smaller species. Length, 9.5 mm.

FEMALE.—Head yellowish, whitish pollinose; frontal vitta, antennæ, palpi and proboscis orange. Front narrow, with almost parallel sides, a little widened on the upper fourth where the sides and ocellar triangle are blackish in ground color. Seven pairs of decussate, one pair of divergent and one pair of proclinate frontals; ocellars strong; outer verticals almost as strong as the verticals. Upper half of the occiput black in ground color. Cheeks about one-fourth as wide as eye-height, wholly black-haired. Parafacials with a row of tiny black hairs above. Facial ridges with short bristles on the lowest three-fourths. Palpi of moderate size, bearing coarse, very short black hairs.

Thorax with faint velvety-yellow sheen when seen from in front. Acrosticals 3–3; dorsocentrals 2 or 3–4; two sublaterals; two posthumerals; three intra-alars and a bristle between the smaller anterior intra-alar and the pre-alar, these last three bristles all of about the same size; five or six pairs of marginal scutellars; sternopleurals 1–1. Thorax with black hair, the pleura mostly reddish yellow pilose.

Legs reddish, the tarsi becoming brown apically; hair and bristles black.

Wings luteous hyaline, the costal border brownish from the apex of the auxilliary vein to a little beyond the apex of the second vein but with a luteous stripe lying immediately behind the first vein and extending a short distance along the costa. Squamæ brownish yellow, the border orange. Halteres yellow.

Abdomen shining rusty yellowish, the narrow apex of the first segment brown; second segment with a shining black posterior fascia occupying about one-third the segment in the middle and narrowing to about one-fifth at the sides; third segment with the posterior half shining black, the black fascia somewhat expanded in the middle; fourth segment shining black with a very broad reddish median vitta which expands moderately posteriorly and extends along the anterior margin half-way to the lateral margins. Hair black except on the basal sternites.

HOLOTYPE.—Female, Paiata, Liberia, October, 1926 (J. Bequaert).

Tricyclea du, new species

Black and rusty yellowish, the brown costal markings extending from the auxilliary vein almost to the apex of the wing. Length, 6.5 mm.

MALE.—Head rusty yellow, mostly shining, the parafacials thinly yellowish pollinose; upper half of the head black. Eyes with enlarged facets above, barely separated for more than one-third the length of the front; five pairs of frontals, restricted to the lowest third; ocellars strong; outer verticals absent. Cheeks slightly more than one-fourth as wide as the eye-height, with moderately long coarse black hairs. Parafacials narrow, with a row of tiny black hairs above. Facial ridges with short bristly hairs on the lower half. Palpi yellow, normal; proboscis reddish brown. Antennæ reddish yellow, the third segment somewhat darkened above.

Thorax rusty reddish-yellow, the mesonotum brown except laterally and posteriorly, and with a broad, paler median vitta; scutellum brown with the free border broadly yellowish. Acrosticals 3–3; dorsocentrals 2–4; sublaterals, 2; posthumerals 2; three intra-alars; four or five pairs of marginal scutellars; sternopleurals 1–1. Hair wholly black.

Legs reddish, the apices of the posterior four femora and the tarsi with the exception of the basal segment, brown. Hair wholly black. Pulvilli small, whitish.

Wings cinereous hyaline, tinged with brown on the apical half, the costal border brown from the apex of the auxilliary vein to the apex of the wing. Squamæ with brownish tinge, translucent whitish basally. Halteres yellow.

Abdomen rusty yellowish, the apex of the first segment brown, the second shining black on the apical third, third segment shining black on the posterior two-thirds, the black band narrowing toward the sides, fourth with a large black triangle on either side occupying the posterior half and separated from each other by a moderately broad stripe. Hair black except on the basal half of the first sternites.

HOLOTYPE.—Male, Du River Camp No. 3, Liberia, 1926 (J. Bequaert).

Related to *fasciata* Macquart but at once distinguished by the mostly brown scutellum and more extensively brown wings.

Tricyclea liberia, new species

Related to *du*, new species, but the brown costal border begins at the apex of the first vein and is narrower, and the posterior forceps are longer and turned strongly upward apically. Length, 6.25 mm.

MALE.—Head pale reddish-yellow, thinly yellowish pollinose; upper half of the front and two-thirds of the occiput black. Eyes almost touching for one-third the length of the front; five or six pairs of short frontals limited to the lowest third; ocellars short and weak. Cheeks about one-fourth as wide as the eye-height, black-haired. Parafacials narrow, with a row of tiny black hairs above. Palpi slender, only a little enlarged apically; proboscis brown. Antennæ reddish yellow. Facial ridges with very short black bristly hairs on the lower half.

Thorax rusty yellowish, the mesonotum rusty reddish with the median half black on the anterior two-thirds although there are indications of three reddish vittæ within the black area. The cinereous pollen is evident only in front of the suture and on the pleura. Acrosticals 3–3; dorsocentrals 2–4; two sublaterals; two post-humerals; three intra-alars, the bristle inside the prealar weak; four or five pairs of marginal scutellars; sternopleurals 1–1. Hair black. Scutellum brown with the free border very broadly yellow.

Legs reddish yellow, the tarsi brown beyond the first segment. Hair black. Pulvilli small, whitish.

Wings cinereous hyaline, the costal border broadly brown beyond the apex of the first vein to the apex of the wing. Squamæ tinged with brown, their base whitish. Halteres yellow.

Abdomen rusty yellowish. First segment with a broadly interrupted, incomplete brown posterior fascia; second segment black on a little more than the apical fourth, the third with the apical third in the middle, less laterally, black; fourth segment with a large, posterior black spot on either side. Hair black except on the basal sternite. Genitalia reddish yellow. The abdomen is without conspicuous pollen.

HOLOTYPE.—Male, Reppo's Town, Liberia, September 1, 1926 (J. Bequaert).

Tricyclea confusa, new species

Tricyclea bivittata MALLOCH, 1929, (not Curran), Ann. Mag. Nat. Hist., III, p. 567.

Rusty reddish and yellowish, with black markings; costal border broadly brown from the apex of the auxilliary vein almost to the third vein, partly interrupted beyond the apex of the first vein. Length, 6 to 6.5 mm.

FEMALE.—Head pale rusty-reddish, the upper three-fourths of the front and the occiput to the lower level of the eyes black. Front wide above, narrowed on the lower third; eight pairs of decussate frontals, one pair of divergent and one pair of reclinate; ocellars moderately strong; outer verticals almost as strong as the verticals. Occiput rather thickly gray pollinose. Cheeks almost one-third as wide as the eye-height, shining, black-haired. Parafacials narrow, with a row of tiny black hairs above. Facial ridges with short bristly hairs on about the lower half. Palpi normal, reddish, proboscis brown. Antennæ reddish, the third segment mostly brown.

Thorax rusty reddish, the mesonotum darker, sometimes with a large brown area on the disc in front of the suture, from which there is a prolongation on either side, or almost unicolorous. Pollen on the dorsum rather thin, brownish yellow, on the pleura cinereous. Acrosticals 3–3; dorsocentrals 2–4; sublaterals 2; two posthumerals; three intra-alars, the bristle inside the pre-alar well developed; four or five pairs of marginal scutellars; sternopleurals 1–1. Hair black. Scutellum rusty reddish, the free border a little paler.

Legs reddish, the tarsi brown beyond the first segment; hair black.

Wings cinereous hyaline, a little darkened apically, the costal border broadly brownish from the apex of the auxilliary vein almost to the third vein and tinged with brown before the apex of the auxilliary vein. Squamæ strongly brown-tinged, pale basally. Halteres yellow.

Abdomen rusty reddish, with shining black fasciæ. First segment with the brown apical fascia rather narrowly interrupted in the middle; the black fasciæ on the second and third segments occupy the apical half in the middle and somewhat less laterally; the fourth segment is black on the apical third to one-half, the fascia broadly interrupted in the middle. Hair black.

TYPES.—Holotype, female, Reppo's Town, Liberia, September 1, 1926; paratype, female, Du River Camp No. 3, Liberia, 1926 (J. Bequaert).

This species is related to *bivittata* Curran but may be distinguished at once by the color of the hair on the suprasquamal declivities, this being all coarse and black in *confusa* but mostly long, fine and yellowish in *bivittata*. In addition the brown costal border is distinctly interrupted in *bivittata*, the front is yellow on the lower three-fourths, etc.

Tricyclea similis, new species

Related to *bifrons* Malloch from which it differs in having the costal border brown from a point a little beyond the humeral cross-vein. In *bifrons* there is no brown coloration before the auxilliary vein. Length, 6 to 6.25 mm.

MALE.—Head yellowish, the upper half of the front, and the occiput to the lower edge of the eyes, black. Eyes almost touching for nearly one-third their length; seven pairs of weak frontals restricted to the lowest third; ocellars weak; outer verticals absent. Posterior orbits gray pollinose. Cheeks shining, little more than one-fourth as wide as the eye-height, black-haired. Parafacials narrow, with a row of tiny black hairs above. Palpi yellowish, normal; proboscis shining reddish. Antennæ reddish yellow, the third segment faintly brown.

Thorax rusty yellow, the mesonotum black with the sides broadly pale, the pollen grayish brown, cinereous anteriorly and on the pleura; sternum brown, the pteropleura with a large brown spot; scutellum brown with the free border broadly yellowish. Hair black. Acrosticals 3–3; dorsocentrals 2–4; two sublaterals; one posthumeral, the outer one absent; three intra-alars, the bristle inside the pre-alar quite weak; four or five pairs of marginal scutellars; sternopleurals 1–1.

Legs reddish yellow, black-haired; tarsi brownish beyond the first segment.

Wings cinereous hyaline, the costal border brown from a little beyond the humeral cross-vein to the apex of the wing, distinctly interrupted just beyond the tip of the first vein. Squamæ pale brown, paler basally, the border brown. Halteres reddish yellow.

Abdomen rusty yellowish, with black fasciæ. First segment with the apex narrowly brown except in the middle and laterally. Second segment with the apical third black, the third with a somewhat wider black fascia; fourth segment with the apical third black except in the middle. Hair black.

FEMALE.—Front wide above, narrow on lower half, black on the upper half; seven pairs of decussate frontals, one pair of divergent and one pair of reclinate;

outer verticals as long as verticals; ocellars somewhat stronger than in male. The black abdominal fasciæ are all considerably wider, those on the second and third segments occupying more than the posterior half of the segments in the middle while the inner ends of the black spots on the fourth segment reach about half-way to the base.

TYPES.—Holotype, male, Lenga Town, Liberia, August 15, 1928; allotype, female, Reppo's Town, Liberia, September 1, 1926; paratype, female, Memeh Town, Liberia, August 22, 1926 (J. Bequaert).

Hemigymnochæta clara, new species

At once distinguished from all the species in the genus by the presence of only three pairs of postsutural dorsocentrals and the unicolorous wings. Superficially similar to *difficilis* Curran but *difficilis* has four postsutural dorsocentrals. Length, 5 to 7 mm.

MALE.—Head yellow, whitish pollinose; upper half of the occiput black in ground color. Eyes almost touching for one-fourth the length of the front; six or seven pairs of frontals confined to the lowest third; ocellars moderately strong; outer verticals absent; frontal vitta mostly, and the ocellar triangle, rusty reddish or ferruginous, the triangle with brown pollen. Cheeks about one-fifth as wide as eye-height, wholly black-haired. Parafacials narrow, with scattered, tiny black hairs above. Facial ridges with two or three rows of short bristly hairs on the lowest third. Proboscis reddish; palpi yellow, normal. Antennæ reddish yellow, the arista mostly brown.

Thorax pale rusty reddish, the mesonotum of a darker shade, thinly cinereous white pollinose, the mesonotum and scutellum appearing wholly pollinose from posterior view. Acrosticals 3-3; dorsocentrals 2–3; two sublaterals; the inner posthumeral weak or absent, the outer absent, three intra-alars, the anterior one very weak; four pairs of marginal scutellars, the hairs on the under surface of the scutellum yellow; sternopleurals, 1–1. Hair black, mostly yellow on the posterior half of the pleura.

Legs yellowish, the tarsi somewhat darker apically. Hair and bristles black, the fine hair on the coxæ yellow.

Wings with slight luteous tinge or cinereous hyaline. Lower squamal lobe narrow, not produced inwardly, the squamæ pale luteous in color. Halteres yellow.

Abdomen pale rusty-yellowish, the apices of the segments very narrowly brownish. Third and fourth segments each with a row of marginals, the fourth with a row of discals. Hair black, except on the venter basally.

FEMALE.—Front with almost parallel sides, the vitta dark rusty-reddish, the upper orbits ferruginous, the ocellar triangle brownish; parafrontals pale pollinose; six pairs of decussate frontals, one pair of divergent and one pair of reclinate; ocellars strong; outer verticals long; palpi slightly larger. Mesonotum distinctly vittate from either anterior or posterior view, the pollen so arranged as to show only from one view; from posterior view there appear to be five bare vittæ, which, from anterior view, appear pollinose. The brown abdominal fasciæ are much more noticeable and sometimes much wider.

TYPES.—Holotype, male, Manguendi, S. Rhodesia, February 22, 1917; allotype female, Que Que, S. Rhodesia, April 17, 1921 (J. D. W.). Paratypes: four females, Gatooma, S. Rhodesia, December, 1927 (A. Cuthbertson) and one female, Que

Que, April 12, 1921. Paratypes have been returned to the British Museum, Mr. Cuthbertson and Mr. Munro.

Hemigymnochæta apicifera, new species

Evidently related to *difficilis* Curran but distinguished from all the described species with unicolorous wings in having a pair of transverse, black apical spots on the fourth abdominal segment. Mesonotum wholly rusty reddish; abdomen with black fasciæ. Length, 5.5 to 6.5 mm.

MALE.—Head rusty yellowish, cinereous white pollinose, front on more than the upper half, and the occiput to the lower edge of the eyes, black in ground color. Eyes closely approximated for one-third the length of the front; five or six pairs of frontals limited to the lowest third; ocellars moderately strong; outer verticals slightly developed. Cheeks about one-fourth as wide as the eye-height, wholly black-haired. Parafacials very narrow, with only two or three inconspicuous black hairs below the frontals. Proboscis reddish; palpi yellow, normal in shape. Antennæ pale orange, the arista mostly black.

Thorax rusty reddish, the pleura paler, thinly whitish pollinose; hair black, mostly pale on the pteropleura. Acrosticals 3–3; dorsocentrals 2–4; sublaterals 2; posthumerals 2; intra-alars 3; five or six pairs of marginal scutellars; sternopleurals 1–1.

Legs reddish yellow, the tarsi pale brownish apically. Hair black; pulvilli small, grayish.

Wings with luteous tinge, a little darker in front. Squamæ luteous, convex on the inner side and with a slight lobe basally, but not produced to beneath the scutellum. Halteres yellow.

Abdomen rusty reddish or yellowish, black-haired, the first sternite with pale pile. First segment narrowly brown apically; second and third segments each with a black fascia posteriorly, the second with or without a narrow median brown vitta; fourth segment with an elongate oval black spot on either side. The band on the third segment is widest, occupying about the posterior fourth of the segment. Third and fourth segments each with a row of erect marginals, the fourth with a row of discals on the basal half.

FEMALE.—Front slightly narrowed on the anterior third, wholly black on the upper two-thirds or more, rarely entirely black, the parafrontals cinereous pollinose; eight pairs of frontals, the upper pair strong and reclinate and one pair of proclinate orbitals situated at the upper fifth of the front. Palpi slightly larger than in the male.

TYPES.—Holotype, male, Memeh Town, Liberia, August 29, 1926; allotype, female, Reppo's Town, Liberia, September 1, 1926. Paratypes: male, Memeh Town, August 29; male, Bakra Town, Liberia, October, 1926; five females, Reppo's Town, September 1, 1926 (J. Bequaert).

Hemigymnochæta liberia, new species

Related to *angola* Townsend but the fourth abdominal segment is entirely black apically instead of yellowish, and the squamæ are brown. Length, 6 mm.

FEMALE.—Head rusty reddish, cinereous-white pollinose, the upper half of the front and the occiput, above the lower level of the eyes, black in ground color. Front of moderate width, narrowing anteriorly; eight pairs of frontals, the upper pair

reclinate and one pair of proclinate orbitals situated at the upper fifth; ocellars fairly strong; outer verticals as strong as verticals. Cheeks wholly black-haired. Parafacials very narrow, with a few short black hairs above. Facial ridges with very short bristly hairs on the lower third. Palpi and proboscis reddish, the former a little swollen. Antennæ reddish, the arista mostly brown.

Thorax rusty reddish, the mesonotum more or less ferruginous on the median third, thinly cinereous white pollinose, the mesonotum not vittate. Scutellum dark rusty reddish, the free border broadly paler. Acrosticals 3–3; dorsocentrals 2–4; sublaterals 2; posthumerals 2; intra-alars 3, the anterior one weak; four or five pairs of marginal scutellars. Hair black, largely pale on the posterior half of the pleura.

Legs reddish yellow, black-haired; tarsi becoming brownish apically.

Wings strongly tinged with yellowish brown. Squamæ light brown. Halteres yellow.

Abdomen shining black, the first segment, except the posterior border, and a large basal triangle on either side of the fourth segment, rusty reddish. Hair black, the venter with yellow hair basally. Only the fourth segment with a row of marginals; no discals.

HOLOTYPE.—Female, Du River Camp No. 3, Liberia, 1926 (J. Bequaert).

The abdomen is unusually black in the single specimen before me but does not appear to be stained. However, it seems likely that specimens will be found in which there are reddish bands or spots basally on the second and third segments.

Hemigymnochæta mitis, new species

Black and pale rusty-reddish; femora black; wings with the costal border brown. Length, 4.75 mm.

MALE.—Head rusty reddish, the occiput above the lower level of the eyes and the upper half of the front black in ground color; pollen cinereous. Eyes closely approximated for less than one-third the length of the front; five pairs of frontals restricted to the lowest third; ocellars of moderate length; outer verticals absent. Cheeks almost one-fourth as wide as eye-height, black-haired. Parafacials very narrow, with three or four tiny black hairs in a row on the upper part. Proboscis blackish; palpi reddish, slightly enlarged, black-haired. Antennæ reddish, the third segment broadly tinged with brown above.

Thorax black, with cinereous pollen, the propleura, broad lateral margins of the mesonotum, its posterior border and the broad free border of the scutellum rusty reddish. Acrosticals 3–3; dorsocentrals 2–4; sublaterals 2, posthumerals 2; intra-alars three; four or five pairs of marginal scutellars; sternopleurals 1–1. Hair black.

Legs blackish, the coxæ, trochanters, bases of the femora and their tips, anterior four tibiæ and the basal tarsal segments reddish or reddish yellow, base and apex of posterior tibiæ obscurely reddish. Hair black.

Wings cinereous hyaline, the costal border broadly brownish beyond the tip of the auxilliary vein, the brown color paler immediately beyond the apex of the first vein, but not clearly interrupted. Squamæ pale brown, evenly convex on the inner border but not conspicuously lobed. Halteres yellow.

Abdomen rusty reddish, each segment with a moderately broad shining black apical fascia, that on the fourth segment broadly interrupted in the middle. Hair black. Fourth segment without discals.

HOLOTYPE.—Male, Paiata, Liberia, October, 1926 (J. Bequaert).

This species is apparently related to *verticella* Villeneuve, but that species has only three postsutural dorsocentral bristles, and the femora are not black.

Hemigymnochæta bequaerti, new species

Rusty reddish, the abdomen with shining black fasciæ, costal border broadly brown beyond the apex of the first vein. Length, 7 to 8 mm.

MALE.—Head pale rusty-reddish, with cinereous pollen; upper half of the front, and the occiput above the lowest level of the eyes, black in ground color. Eyes closely approximated for one-third the length of the front; five or six pairs of frontals; ocellars rather weak; outer verticals absent. Cheeks hardly one-fourth as wide as eye-height, wholly black-haired. Parafacials very narrow, with several tiny black hairs above. Palpi and proboscis reddish yellow, the former not enlarged, black-haired. Antennæ reddish, the third segment broadly brownish above.

Thorax rusty reddish, with thin yellowish pollen above and whitish below. Hair black, mostly yellowish on the pleura. Acrosticals 3–3; dorsocentrals 2–4; sublaterals 2; posthumerals 2; intra-alars 3; five or six pairs of marginal scutellars; sternopleurals 1–1.

Legs reddish yellow, the tarsi mostly brownish red; hair black, partly yellow on the anterior tarsi.

Wings with strong luteous or cinereous tinge, broadly brown along the costal border beyond the apex of the first vein. Squamæ brownish, slightly lobed basally. Halteres yellow.

Abdomen rusty reddish or yellowish, with three black fasciæ. First segment narrowly brown on the apex, second with a narrow black apical fascia, the third and fourth with much broader apical fasciæ. In the type the fourth segment appears mostly black dorsally, but this is undoubtedly due to staining. Hair black, yellow on the basal sternites; fourth segment without discals.

TYPES.—Holotype, male, Paiata, Liberia, September, 1926; paratype, Du River Camp No. 3, Liberia, 1926 (J. Bequaert).

This species is readily distinguished from *mitis* Curran by the large size, reddish-yellow femora and entirely pale thorax.

RHINIA Desvoidy

DESVOIDY, 1830, Mem. Acad. Roy. Sci. Inst. France, (2) II, p. 422.

As a general rule all species of Rhiniinæ with the apical cell petiolate have been placed in this genus, but the character is not of generic importance, and its use separates obviously closely related species. The only character upon which it seems possible definitely to restrict *Rhinia* is to be found in the elongate, parallel-sided palpi, which are five or more times as long as wide. I have before me seven African species which fall into the genus *Rhinia* as here restricted, and they form a very homogeneous group. Should this character be found to be of no value the

only recourse will be to bring all the species now placed in *Stomorhina* Rondani into the present genus. The synonymy of *Stomorhina* is discussed in the following pages.

Rhinia atra, new species

Black, the tibiæ reddish; pleura yellow pollinose on upper half; wings luteous, with black cloud on apical fourth; two mesopleural bristles. Length, 5.5 mm.

MALE.—Head shining black, the parafacials with a tiny triangle below and a larger one above, cinereous-yellow pollinose. Eyes closely approximated for more than one-third the length of the front; five pairs of frontals limited to the lower third; ocellars well developed; outer verticals absent; hair on the cheeks yellow. Palpi brown, with parallel sides, about five times as long as wide. Antennæ reddish brown. Antennal grooves very thinly grayish pollinose.

Thorax black; mesonotum and scutellum grayish-brown pollinose from posterior view, each hair arising from an opaque black spot, the spots tending to form longitudinal lines; no distinct vittæ. Pleura yellow pollinose and pilose on the upper half, shining below. Scutellum with pale yellowish ventral fringe.

Legs black; tibiæ and basal two segments of the posterior four tarsi reddish; anterior coxæ not pollinose, their hair wholly black.

Wings with strong luteous tinge, with a brown cloud on the apical fourth in front; apical cell moderately long petiolate. Squamæ brownish. Halteres yellow.

Abdomen shining brownish black, the middle of the venter obscurely cinereous pollinose. Hair black, yellow on the venter basally. Fourth segment with one or two weak discals toward either side.

TYPE.—Male, Reppo's Town, Liberia, September, 1926 (J. Bequaert).

This species may be distinguished from any thus far described by the wholly black cheeks. It is the only one I have seen possessing this character, and also none of the others have the abdomen wholly black. The palpi are similar in shape to those of *apicalis* Wiedemann. *R. simulatrix* Loew is similar to *apicalis* but has very much longer palpi.

STOMORHINA Rondani

RONDANI, 1861, 'Dipt. Ital. Prodr.,' IV, p. 9.
Stomatorhina of authors; *Idia* Meigen, preoccupied.
Idiella BRAUER AND BERGENSTAMM, 1893, Denkschr. Akad. Wien, LVI, p. 154.
Chlororhinia TOWNSEND, 1917, Rec. Ind. Mus., XIII, p. 191.

Malloch[1] limits the genus *Stomorhina* to species having more than two bristles on the mesopleura and distinguishes *Rhinia* Desvoidy and *Idiella* Brauer and Bergenstamm by the usually petiolate apical cell in the former and at most very short petiolate apical cell in the latter, as well as by what appear to be unimportant characters from a generic viewpoint. Inasmuch as typical species of *Rhinia* all have long, narrow

[1]Ann. Mag. Nat. Hist., XVIII, pp. 496-522, 1926.

palpi, while the others have the palpi broadened, that genus is readily separated. The number of mesopleural bristles varies and does not appear to be of sufficient importance to warrant its use as a generic character, and it does not seem possible definitely to recognize two genera on this character. *Chlororhinia* Townsend appears, upon study of the genotype, to be a valid genus, since it lacks the posthumeral bristle and looks quite different from the other species. However, in a species from Africa which is undoubtedly allied to *C. viridis* Townsend this bristle may be either present or absent. Since the characters are variable and there, at present, appears to be no real basis for the isolation of species into distinct genera, I feel that it is but logical to recognize *Rhinia* and *Stomorhina* as the only valid calliphorid genera having the arista haired on the upper side only.

I have before me several undescribed species belonging to this genus, descriptions of three of these being presented at the present time, the remainder being left until it is possible to secure notes on types of older species in order that characters not mentioned in the descriptions may be verified.

Stomorhina chapini, new species

A small black species with punctulate cinereous pollen on the thorax and abdomen, the scutellum bright yellow on the apical third and a short brown preapical fascia on the wing. Related to *Chlororhinia viridis* Townsend but distinguished by the color and in having the abdomen of the female slightly longer than wide. Length, 4.5 mm.

FEMALE.—Head shining black, with a small, cinereous-pollinose spot on each orbit opposite the base of the antennæ. Front wide, the subopaque frontal vitta scarcely as wide as either parafrontal; seven or eight pairs of rather short, decussate frontals, the upper pair, situated near the vertex, and two pairs of orbitals arising close to the line of the frontals, divergent and subappressed; ocellars as strong as the frontals; outer verticals as long as the verticals; parafrontals destitute of hair; occipital cilia black, short. Cheeks about two-fifths as wide as eye-height, with fairly long, sparse, fine cinereous yellow hair, the occiput with similar hair below. Parafacials rather narrow, with four low, transverse ridges. Palpi brown, about twice as as long as wide, obtuse apically. Vibrissæ situated well above the oral margin; two or three very small bristles above them; facial depression thinly cinereous pollinose on the upper half. Antennæ brown, reaching almost or quite to the vibrissæ; arista with moderately long rays above.

Thorax black, cinereous pollinose, each hair on the mesonotum and mesopleura arising from a round black spot; behind the suture, a broad, subshining black band extends almost the whole way across, the sides being pollinose, the scutellum shining black with the apical third bright yellow. Hair of the dorsum very short and black, on the pleura fine and yellow. The acrosticals and dorsocentrals are represented only by prescutellar bristles, while the only bristles in front of the suture are the pre-

sutural and sometimes the posthumeral. Fringe of sparse hairs on lower edge of scutellum yellowish. Mesopleura with five bristles posteriorly.

Legs black; posterior four tibiæ and the basal two or three segments of their tarsi reddish yellow, the anterior tarsi brown, sometimes reddish yellow dorsally. Hair and bristles black, the hair partly yellow on the anterior coxæ.

Wings cinereous hyaline, broadly yellowish basally; anterior cross-vein broadly clouded with pale brown; a broad brown fascia extends obliquely from the costa, arising before the end of the second vein, to the middle of the apical part of the apical cell. Third vein scarcely carried forward beyond the end of the long-petiolate apical cell. Squamæ cinereous white, pure white basally. Halteres yellow, the knob white.

Abdomen black, slightly shining, the second and third segments cinereous pollinose on a little more than the basal half of the lateral third or less, the venter much more extensively pollinose. Hair short and black, those on the pollinose areas arising from black spots. Fourth tergite with a median, transverse row of fine discals and with about four fine marginals. Abdomen a little longer than wide.

TYPES.—Holotype, female, and three paratypes, Lukolela, Congo, January 13, 1931 (J. P. Chapin).

Stomorhina apta, new species

Blackish, the apex of the scutellum and the venter in part, yellowish; mesonotum trivittate; mesopleura with four black bristles posteriorly. Length, 7 to 8 mm.

FEMALE.—Head black, somewhat shining; occiput cinereous pollinose, the posterior part of the cheeks cinereous yellow and with yellow pile. Front wide, the dull frontal vitta a little more than twice as wide as either parafrontal; about nine pairs of frontals, the upper pair reclinate; three or four pairs of divergent orbitals arising close to the frontal row and two or three proclinate orbital hairs below them; ocellars and outer verticals strong; occipital cilia black. Frontal orbits with two spots of cinereous-yellow pollen, a rather obscure one at the upper fourth, above which there is thin brown pollen and a larger one at the lower third. The parafacials are wide and are ornamented with two pollinose spots, one lying near the upper end broad and extending to the facial ridges, the other at the lower end small and triangular. Palpi brown, increasing in width from the base to near the rounded apex, about three times as long as wide. Antennæ reddish brown, the basal segments shining.

Thorax black, the pleura wholly cinereous-yellow pollinose and with thin yellowish pile. Mesonotum rather thinly cinereous pollinose, with three dull blackish vittæ when seen from behind, each hair arising from a dull black spot, the hairs black, the spots tending to form irregular longitudinal rows. Scutellum mostly dull, the sides and the broadly yellow apex conspicuously pollinose, the sparse ventral fringe of hairs yellow. Mesopleura with four or five black bristles posteriorly.

Legs black, the tibiæ brown or brownish red, the basal two or three segments of the posterior four tarsi reddish; anterior coxæ yellow pollinose and with yellow hair, the apical half bearing black bristles.

Wings strongly tinged with brown on the anterior half, darker on the apical half in front, the posterior part cinereous hyaline, the base brown. Apical cell open. Squamæ white, brown on the inner third or less. Halteres reddish with yellow knob.

Abdomen black, the sides, apical segment and venter with cinereous pollen, the hairs arising from dark spots, black, the venter with yellowish hair basally. The abdomen may be wholly black or there may be large yellow areas on the venter.

In the type the under side of the first segment is yellow except posteriorly, and there are large transverse basal spots of a reddish color on the second and third segments which do not encroach on the dorsum; in one paratype the venter is yellow, the broad apices of the segments black, the yellow extending slightly on to the dorsum. The second paratype has the abdomen wholly black. Fourth segment without discal bristles.

TYPES.—Holotype, female, S. Masai Reserve, Kenya Colony, May 16, 1913 (J. T. Anderson). Paratypes: female, Uganda, 1911 (Dr. C. H. Marshall); female, Toro, Uganda, June, 1925 (G. L. P. Hancock). The first two specimens are in the British Museum, the last in The American Museum of Natural History.

This species has the facies of those considered as typical of *Idiella* Brauer and Bergenstamm, but on the character of the pleural bristles would be placed in *Stomorhina*, and the venation is typical of the latter. The brown wing-markings will distinguish *apta* from all the African species known to me, in which there are more than two mesopleural bristles. Possibly its nearest relative is the Australian *subapicalis* Macquart which has, however, greenish or bronzed thorax and cinereous-hyaline wings with much less conspicuous brown markings apically.

Stomorhina mitis, new species

Related to *tricincta* Bigot from which it it distinguished by the black spots on the pleura being larger, many of them confluent, at least half of the mesopleura shining and the mesonotum much less distinctly vittate, and the abdomen is black in ground color. Length, 5 to 6 mm.

MALE.—Head black in ground color, with cinereous-white pollen, the non-pollinose spots shining; the pollen covers the upper half of the parafacials, the frontal orbits, posterior orbits and more than the posterior half of the cheeks, and there is a minute triangle at the lower end of the parafacials. On the parafacials there are one or two black spots in the pollinose area while on the front and cheeks each hair arises from a large shining black spot; hair on the cheeks yellow, elsewhere black. Front very narrow on the upper half; five or six pairs of frontals restricted to the lower half; ocellars short; outer verticals absent. Parafacials moderately wide. Palpi brown, broad, about three times as long as wide. Facial depression pollinose on the upper three-fifths. Antennæ reddish brown; arista luteous basally.

Thorax black or greenish black, thickly pollinose, the sternopleura and lower part of the mesopleura behind and lower third or more of the pteropleura bare in well-preserved specimens; pleural hair yellow, that on the dorsum brown or black; two mesopleural bristles. The hairs on the mesonotum each arise from an oval shining black spot, the spots tending to form longitudinal lines, while in some lights there are three distinct, dark vittæ. In general the mesonotum appears only thinly grayish pollinose and weakly dark vittate and has a greenish tinge. The pollen on the mesopleura is studded with large black spots which tend to fuse, so that their area, together with the normally bare part, comprises more than half of the mesopleura. Scutellum with similar pollen, the dorsum with a large bare spot on the apical half or less. Ventral fringe yellow.

Legs black, the middle tibiæ reddish brown, the basal one or two segments of the posterior four tarsi reddish. Anterior coxæ with yellowish hair and cinereous pollen, the bristles confined to the apical half.

Wings cinereous hyaline, with a large preapical brownish triangle and the costal cell brown at the base. Apical cell short petiolate. Squamæ brown, the base of the lower and almost the whole of the upper lobe white. Halteres yellow.

Abdomen black, the dorsum with three pairs of large, transverse, cinereous-white pollinose spots which are broadly separated in the middle and united laterally to the pollen of the venter; the bands are more broadly separated from the posterior borders of the segments than from the anterior, their inner ends rounded; toward the outer ends the shining black punctures are large, but they become minute or absent toward the inner ends. On the venter the shining spots are large and form irregular lines or even fuse posteriorly on the posterior parts of the segments. Hair black, pale on the basal half of the venter. Under side of first segment brown; basal three sternites, and edges of the adjacent tergites, bordered with yellow. Genitalia brown. Fourth segment without discals.

FEMALE.—Front wide, gently narrowing above, the pollen on each parafrontal with two rows of large, transverse shining black spots, those in each row sometimes tending to unite with those in the other row and to a much less extent with spots in the same row; frontal vitta of equal width throughout, at the middle scarcely as wide as either parafrontal opposite. There are about ten pairs of frontals (arising from black spots), the upper pair reclinate, and five or six pairs of divergent orbitals. Outer verticals strong; cheeks white-haired. Ventral scutellar hair rather abundant, whitish, the pleural hair white or yellowish tinged; sternopleura with large black spots in the thick pollen.

TYPES.—Holotype, male, New Hanover, Natal, December 16, 1916 (C. B. Hardenberg); allotype, female, Barberton, Transvaal, May 5, 1913 (H. K. Munro). Paratypes: three males and one female, New Hanover, December 14, 1913 and February 16, 1914, (C. B. Hardenberg); five females, Barberton, May 5, 1913, May 17, 1913 and July 15, 1920 (H. K. Munro); female, Barberton, August, 1913 (L. S. H.); three males and two females, Estcourt, Natal, January 18, 1913 (R. C. Wroughton); male, Bloemfontein, Orange River Province, April 7, 1916; female, Yaba, Nigeria, July 25, 1909 (Dr. W. M. Graham); female, Mulata Mts., Harrar Province, Abyssinia, October 22–25, 1920 (B. Brown). Paratypes were returned to Mr. Munro and the British Museum of Natural History.

Rhynchomya nigeria, new species

Eyes bare; head yellowish; thorax yellowish pilose; abdomen reddish yellow, with black vitta and lateral margins; legs reddish. Related to *crinicauda* Villeneuve, but lacking the thick black hair on the under surface of the abdomen apically. Length, 10 to 10.5 mm.

MALE.—Head reddish or reddish yellow, cinereous-white pollinose, the occiput mostly black in ground color, the parafacials with thin silvery-white pollen. Eyes separated by a distance equal to the width of the ocellar triangle; front narrow on the upper fourth, the sides strongly diverging below, the face very much wider below than above; about twelve pairs of fine frontals, the hair fine and fairly abundant; ocellars well developed; outer verticals absent; occipital cilia black, fine. Pile of occiput and cheeks yellowish white, on the cheeks limited to the posterior third, the

cheeks shining except behind and bearing very short, inconspicuous yellow hairs, their width equal to half the eye-height. Parafacials wide, the frontal hair continued to their lowest fourth; below with a very large, shining bare spot which cuts off a small orbital white triangle at the lower end. Palpi and proboscis rusty reddish. Antennæ orange, reaching to slightly below the middle of the face; arista bare. Facial carina flat, moderately wide.

Thorax metallic green, densely clothed with yellowish pile, that on the pleura almost white; the mesonotum moderately cinereous pollinose. Acrosticals 0–2; dorsocentrals 2–4 or 5; two sublaterals; one posthumeral; three intra-alars; three pairs of strong marginal scutellars and one or two weak pairs; sternopleurals 1–1. Scutellum reddish in ground color, the base and sides with green reflections.

Legs reddish; coxæ white-haired, the anterior pair bearing several black bristles on the apical half; anterior femora white-haired behind, the posterior four with pale pile posteriorly on the basal half or less. Tarsi brown, the posterior four with the basal two or three segments reddish with dark apices. Middle tibiæ with ventral bristle.

Wings cinereous hyaline, the veins yellowish basally. Squamæ white, or with yellow tinge, the lower lobe produced inwardly. Halteres reddish yellow.

Abdomen rusty yellowish, the apex rusty reddish; a broad median black vitta extends from the base of the abdomen to the base of the fourth segment; sides of the first to third segments each with a large blackish spot on the posterior half, the spots with more or less green reflection, the median vitta partly thinly cinereous pollinose. Hair black, the venter almost entirely pale yellow-haired. No discal bristles, the few marginals fine.

Types.—Holotype, male, Ibadan, Nigeria, August 8, 1925 (F. D. Golding), in British Museum of Natural History. Paratype, male, Ideasi, N. Nigeria, June 30, 1912 (Dr. J. W. Scott-Macfie).

In some respects this species resembles *tetropsis* Bigot but has much shorter antennæ and narrower palpi. The eyes bear very short, sparse hairs. Apparently this is a sexual character in this genus. According to Malloch this species would fall within the genus *Beria* Desvoidy, but the characters used for the separation of the two genera are variable. It is probable that the name *Beria* will have to be used for this genus, but until *Beria inflata* Desvoidy has been correctly identified it will be impossible to decide. I believe I have the species from South Africa, and if such is the case the characters given by Malloch for *Beria* are erroneous in so far as chætotaxy is concerned. However, there are two South African species which agree well with Desvoidy's description, so the matter remains complicated. Previous identifications of *inflata* are evidently erroneous.

Rhynchomya pollinosa, new species

Related to *disclusa* Villeneuve but distinguished by the concolorous thorax and abdomen, the latter being much more thickly pollinose than in *disclusa*. Length, 9 to 10.5 mm.

MALE.—Head reddish, cinereous pollinose; parafrontals and occiput above the lower level of the eyes black, the occiput also reddish below the vertex. Eyes separated by a distance equal to that across the posterior ocelli, the front widening on the anterior two-thirds; about ten pairs of frontals, the upper ones hair-like, and a secondary row of four or five bristles or bristly hairs outside the lower ones; parafrontal hair coarse, sparse. Ocellars strong; outer verticals absent. Cheeks more than one-third as wide as eye-height, black-haired, the hair sparse, sometimes partly yellow on the lower part; a more or less distinct, and variable in size, bare spot on the upper anterior portion, otherwise thinly pollinose. Parafacials wide, with sparse black hair, pollinose except for a bare, brownish-red spot below which varies in size and may be almost obsolete. Palpi and antennæ reddish, the latter reaching little more than half-way to the oral margin; arista bare. Facial carina moderately sharp, obsolete on lower half.

Thorax bronzed, thickly ashy pollinose without vittæ, the bronze color showing through in some lights, from posterior view most of the mesonotal hairs appear to arise from black spots. Pleural hair pale yellowish, that on the mesopleura and dorsum black. Acrosticals 1 to 3–4 to 7; dorsocentrals 2 or 3–4; two sublaterals; outer posthumeral absent; three intra-alars; three pairs of marginal scutellars; sternopleurals 1–1.

Legs black; tibiæ reddish, the basal segment of the posterior four tarsi brownish red. Hair black; coxæ, and the femora in some views, cinereous pollinose.

Wings cinereous hyaline, yellowish basally. Squamæ narrow, whitish or with luteous or cinereous tinge. Halteres yellow.

Abdomen bronze-colored, thickly cinereous pollinose, the hairs in some lights appearing to arise from dark spots, the pollen with just a slight tessellation with light incidence. Fourth segment with a row of discals which are not, however, conspicuous and are usually situated beyond the middle of the segment, and in addition there are sometimes additional ones either behind these or in front of them, the intermediate segments with median lateral bristles. Hair wholly black. Genitalia small, blackish, thinly pollinose.

FEMALE.—Occiput black as in the male. Front very wide and swollen, convex, the parafrontals at their middle each about three times as wide as the frontal vitta, reddish in ground color, clothed with cinereous-yellow pollen which leaves a bare spot at the base of each hair and bristle. The frontals number about twelve pairs, the upper pair reclinate, while there is a secondary row of about ten, but the bristles are irregular and inclined to be scattered. Outside the decussate bristles are a variable number of proclinate or divergent ones, some of which are strong while others are not well differentiated from the hairs. The hair is mostly coarse and of variable length. Parafacials with coarse hair as on the front.

TYPES.—Holotype, male and allotype, female, Pretoria, Transvaal, September 21, 1915. Paratypes: male and one female, Pretoria, September 29, 1914 (H. K. Munro); female, Pretoria, September 25, 1912 (C. B. Hardenberg). The types have been returned to Mr. Munro.

Eurhynchomyia thoracica, new species

Eurhynchomyia obtusa MALLOCH, 1926 (not *Xysta obtusa* Bigot), Ann. Mag. Nat. Hist., XVIII, p. 513.

TYPES.—Two specimens of each sex from Port Shepstone, Natal, August 7, 15, 28, 1920 (H. K. Munro); four females, Illovo, S. Africa, June 8, 22, 1919 (W. H.); one female, Durban, Natal, September 6, 1921. The holotype, male and allotype, female, have been returned to Mr. Munro.

This species has been characterized by Malloch in the reference cited above. The two sexes are very similar in coloration and differ very materially from the description of *Xysta obtusa*, which is undoubtedly a true *Rhynchomya* related to *tetropsis* Bigot, *discrepans* Villeneuve, etc.